2005 Infection Control Update

Home Health Aides & Home Attendants

Satellite Conference
Wednesday, January 12, 2005
2:00-4:00 p.m. (Central Time)

Produced by the Alabama Department of Public Health
Video Communications Division

Faculty

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Objectives

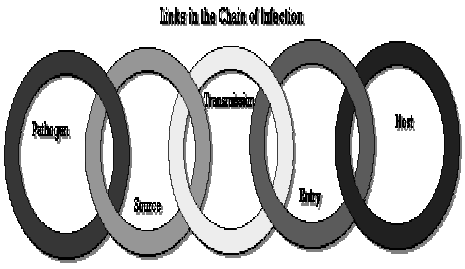
- **Describe four of the six components of the chain of infection.**
- **Discuss the importance of using Standard Precautions to decrease job-related exposures to infectious diseases.**
- **Name three examples of bloodborne pathogens as defined in the Occupational Safety and Health administration's (OSHA's) Bloodborne Pathogens Standard.**

Objectives

- **Demonstrate the proper procedure for donning and removing personal protective equipment.**
- **List the routes of transmission for hepatitis B and hepatitis C.**

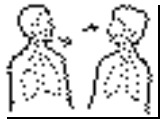
Chain of Infection

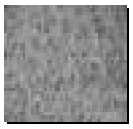
Links in the Chain of Infection



For Infection to Occur An Organism Must:

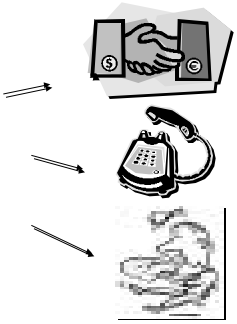
- **enter the body**
- **grow and multiply**
- **cause a response**





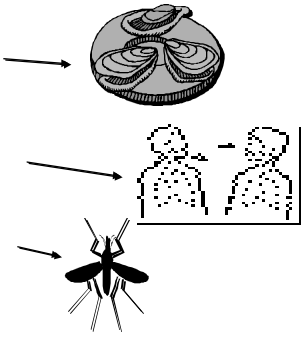
Routes of Transmission

- **Contact:**
  1. **direct**
  2. **indirect**
  3. **droplet (3 feet)**



Routes of Transmission

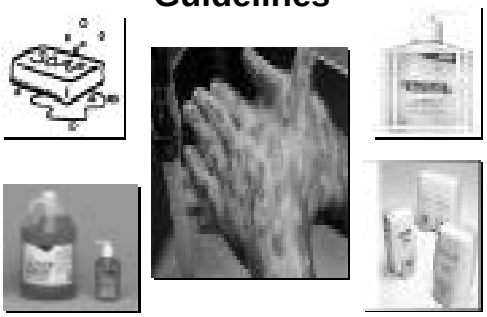
- Vehicle
- Airborne
- Vector



Handwashing (Hand Hygiene)

- **The most important measure you can use to prevent the spread of infection.**

CDC Hand Hygiene Guidelines



Hand Hygiene

When hands are visibly soiled with blood or other body fluids:

- **Wash hands with either a non-antimicrobial soap and water ……**

  OR

- **An antimicrobial soap and water**

Hand Hygiene

If hands are not visibly soiled:

Use an alcohol-based hand rub for routinely decontaminating hands.

Standard Precautions

- **Consider <u>all patients</u> to be potentially infectious.**
- **Use appropriate barrier precautions <u>at all times.</u>**

Standard Precautions

OSHA Bloodborne Pathogens Standard

Be knowledgeable about the three most common bloodborne pathogens encountered as a healthcare worker:

- **Hepatitis B**
- **Hepatitis C**
- **HIV**

Transmission of Bloodborne Pathogens

Occurs when blood or body fluids from an infected person enters the body of a person who is not immune.

1) sexually
2) mother to newborn at birth
3) sharing hypodermic needles

Occupational Transmission of Bloodborne Pathogens

1) **Injuries involving needles or sharps**
2) **Mucous membrane exposures (eyes, nose, mouth)**
3) **Contact with non-intact skin**

Personal Protective Equipment (PPE)

- **Use of PPE creates a barrier between the worker and the infectious material, thus improving personnel safety.**
- **Use of PPE plays a major role in improving safe work practices to decrease disease transmission.**
- **Healthcare workers should know when and how to use PPE.**

Key Points About PPE

1. Put on equipment before contact with patient.
2. Use equipment carefully – do not spread contamination.
3. Always remove and discard PPE carefully.
4. Immediately perform hand hygiene.
5. Clean re-usable goggles or safety glasses by washing with warm soapy water or wiping with alcohol.

Personal Protective Equipment

Wear Gloves:

- When touching blood, body fluids, secretions, excretions;
- When touching mucous membranes and non-intact skin;
- When touching contaminated items.

Do's and Don'ts of Glove Use

- Do work from "clean to dirty".
- Don't touch your face or adjust PPE with contaminated gloves.
- Don't touch environmental surfaces except as necessary during patient care.

Do's and Don'ts of Glove Use

- Do change gloves if torn or heavily soiled.
- Do change gloves when moving from one site of care to another site on the same patient.
- Never wash or reuse disposable gloves.
- Always discard in appropriate receptacle.

Personal Protective Equipment (PPE)

- Wear Apron:

  With every patient. The apron worn over your uniform provides a basic barrier to protect you and also to protect your patient.

Personal Protective Equipment (PPE)

- Wear Gown:

  During patient-care activities when you anticipate your uniform and apron may have contact with blood or body fluids.

Personal Protective Equipment (PPE)

- **Wear Mask and/or Eye Protection:**
  During patient-care activities likely to generate splashes or sprays of blood, body fluids, or secretions.

Facial Protection

- **Masks/Facial Shields**
  - **Should protect nose and mouth.**
  - **Should fully cover nose and mouth and prevent fluid penetration.**
- **Goggles or Safety Glasses**
  - **Should fit snugly over and around eyes or eyeglasses.**
  - **Personal glasses are not a substitute for goggles.**

Sequence for Putting On and Removing Personal Protective Equipment

Putting On PPE:	Removing PPE:
1.Gown	1. Gloves
2.Mask	2. Goggles
3.Goggles	3. Gown
4.Gloves	4. Mask

Demonstration of Proper Way to Put On and Remove Personal Protective Equipment (PPE)

PPE Safe Work Practices- Always Remember To:

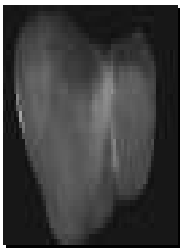
- **Keep hands away from face.**
- **Limit surfaces touched.**
- **Change equipment when torn or heavily contaminated.**
- **Perform hand hygiene immediately after removing all PPE.**

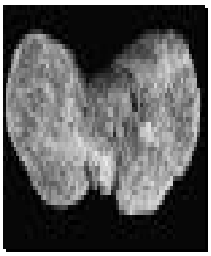
Respiratory Hygiene

Respiratory Hygiene

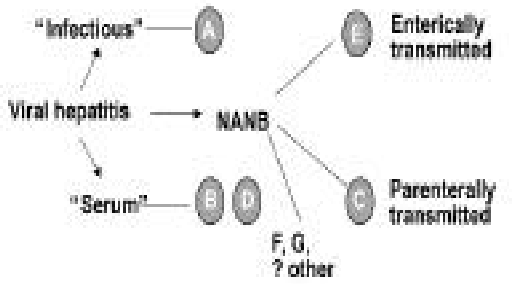
- Cover the nose and mouth when coughing or sneezing;
- Use tissues to contain respiratory secretions and dispose of in the nearest waste receptacle;
- Perform hand hygiene after having contact with respiratory secretions and contaminated objects/materials.

Viral Hepatitis
Hepatitis: Inflammation of the Liver





Viral Hepatitis - Historical Perspective



Viral Hepatitis: Signs and Symptoms

- Jaundice
- Dark urine
- Pale colored stools
- "Flu-like" symptoms
- Pruritus (generalized itching)
- Anorexia

Hepatitis A Virus Transmission

- Close personal contact- fecal/oral route (household, sexual, daycare)
- Contaminated food, water
  (infected food handlers, raw seafood)
- Blood exposure (rare)
  (injecting drug use, transfusion)

Hepatitis A Vaccine

- Present vaccine is 99% efficacious.
- A 2-dose schedule regime (given 1 month apart).
- Recommended for children 2 yrs. or older, homosexual and bisexual men, IV drug users, and travelers to endemic countries.

Hepatitis B Virus: Modes of Transmission

- Sexual
- Parenteral
- Perinatal
- Other

Hepatitis B Virus: Concentration in Various Body Fluids

High	Moderate	Low/Not Detectable
Blood	Semen	Urine
Serum	Vaginal fluid	Feces
Wound exudates	Saliva	Sweat
		Tears
		Breast milk

Hepatitis B Chronic Infection

- Approximately 30-60% of young children and 2-10% of adults who are infected with HBV will develop chronic infection.
- Persons with chronic HBV infection are often asymptomatic.
- Approximately 15-25% of these may die prematurely from either cirrhosis or liver cancer.

Hepatitis B Vaccine

- Vaccine is a recombinant vaccine-yeast derived product (not serum)
- 96% efficacious
- 3-dose regime, given IM in the deltoid:

  (0, 3, & 6 months intervals)

Hepatitis C: "THE SILENT EPIDEMIC"

- The major healthcare problem worldwide.
- Many people who are infected do not have symptoms for many years, but their blood and body fluids could be infectious to others.

HEPATITIS C: "THE SILENT EPIDEMIC"

- 50 million people infected worldwide; of these, 4 million are in the U.S.
- 70-90% of those infected will develop chronic infection.
- Contributes to over 12,000 deaths annually.

Hepatitis C Transmission

- Injecting drugs
- Sexually
- Blood transfusions (prior to blood donation screening)
- Perinatally
- Household (sharing razors, toothbrushes, etc.)
- Other

Hepatitis C Treatment?

- There is no vaccine for hepatitis C.
- There are some anti-viral medications available for treatment of certain hepatitis C patients, but treatment is usually only effective in 10-40% of those treated.

Hepatitis D

Hepatitis D infection is acquired either:

- As a co-infection with hepatitis B

  OR

- As a superinfection of persons with chronic hepatitis B infection

Hepatitis D Virus: Modes of Transmission

1) Percutaneous exposures
   - Injecting drug use
   - Accidental needlesticks
2) Permucosal
3) Sexual transmission
4) Perinatal

Hepatitis D Prevention

- No vaccine available.
- Individuals with chronic hepatitis B should be educated regarding the need to reduce any risk factors they may have for acquiring hepatitis D.

Hepatitis E Virus

- The major etiologic agent of enterically transmitted non-A, non-B hepatitis worldwide.
- Case fatality rate for pregnant women is 15-25%.
- No vaccine available.

Infection Prevention

Lend Healthcare A Hand
By Washing Yours™

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